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Sabah banking on renewable energy

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KOTA KINABALU: Green Energy is the way forward to cope with Sabah's growing power needs, said Green Energy Association of Sabah (GENS) President Edward Chua (pic).



"The Sabah Government is very serious about the development of green energy. We have launched the Sabah Energy Roadmap 2040 as part of the Green Initiatives in line with the National Energy Transition Roadmap.

"On behalf of the Green Energy Association of Sabah, we would also like to make some constructive recommendations to the Sabah State Government," he said at the Malaysia (Sabah)-Chinese Business Summit's Forum 7: Powering the Green Future at the Sabah International Convention Centre here on Saturday.

According to him, coal-fired power plants currently account for 25 per cent of global carbon emissions.

"So to mitigate the climatic change, we have to replace coal-fired plants with renewable energy.

"I'm glad to see that in Sabah, we were the first Malaysia state to reject a coal-fired plant years ago. Currently, 86 per cent of Sabah's power generation is done via low-carbon gas-fired power plants.

"So you may argue whether the decision years ago was good or not; we leave it to history to be our best judge. Some argue that we face a power shortage today because we have rejected coal-fired power plants. So we leave it to history to be our

best judge," he said.

Chua said Sabah is relying heavily on natural gas for power generation amid depleting gas reserves, which are expected to decrease after 2030.

"We have no choice but to look for other power supply sources that is renewable energy," he said.

According to the Sabah Roadmap, by 2035, we will reduce natural gas to 55.4 per cent while hydro will increase to 28.6 per cent, others 6.6 per cent and battery is 6.6 per cent, he said.

Chua said that by 2035, Sabah's targeted generation will only be 1.8 GW.

"This may not augur well with Sabah's aggressive industrialisation plan. So a fast-track energisation transition plan is imminently needed to address foreign direct investment (FDI) over the next 10 years," he said.

He said the current Renewable Energy production is 2.7 per cent, while the state's planning for 2035 is only 6.6 per cent.

The renewable energy-mixed forecast by 2030 includes Hydropower Plants producing a total of 456MW through Upper Padas (180MW), Oriole in Sipitang (170MW), Telikosang 182 in Tenom (40 MW already in operation), and Tenom Pangi (Restoration) with 66 MW, which should be on the way by next year.

Sabah also has large-scale solar (LSS) plants producing a total of 216MW, and located in Tadau, Kudat is the largest single solar farm in Sabah, producing 50MW, he said.

Recently, Chua said the SESB has awarded a Battery Energy Storage System (BESS) in Lahad Datu, which produces

another 100 MW.

"Hopefully, it should be on the grid before 2026. These are the scenarios of renewable energy max forecast by 2030," he said.

He said all these are game changers for Sabah, including producing power using biomass and biogas power plants.

However, despite some pilot projects taking off 20 years ago, there were some issues resulting in the bio-energy did not really take off, he said.

Among them were that most of the mills are too far from the grid and PMU PPU injection point, technicality, efficiency, and maintenance issues at the mill level, high transportation costs of Fresh Fruit Bunch (FFB), and inconsistent operation of CPO mills.

"Sometimes we have fruit, sometimes we don't have fruit. So, the supply is not constant.

"So, we should look at the current technology where we make innovative approaches. We should look into the mobile storage in the form of energy pallet pump base. So you don't have to store and process in situ.

"By converting into an energy pallet, it can be transported anywhere in the world for biomass power plants. Another type of biogas capture is called a virtual pipeline. We can do methane gas quarterly.

"Thus, it is a storage facility for exporting biogas power plants. This is a critical energy pallet for which there is a big demand in Japan and Korea. They already have a carbon tax for all coal power plants.

"If they can match the energy palate for

more than 3 per cent, they will be given a carbon tax cut," he said.

Chua said the game changer for Sabah, as far as attracting investors and the private sector, is the advancement of technology and commercial viability.

"We look at the short-term green energy investment (two to three years). The ILS is already in phase One. Hopefully, the government can consider in pre-phase two another 100 or 200. I think that is possible.

"In fact, solar power is the one that can deliver power in the shortest possible time. As compared to hydro, it may take five years. So, solar can be on that for 18 months or less," he said.

Chua said GENS also urged the government to reconsider the Net Energy Metering (NEM) implementation for grid storage.

"Right now, we don't have any. But West Malaysia has been doing it and very successful... hopefully, the state government can consider a similar approach," he said, adding another option, the Energy Storage System (ESS), for commercial and industry.

"But we also need this from the government to implement the off-peak tariff and increase it. So that we can implement the peak shifting. In China, why is ESS popular, and why does it bring down the price of ESS? Because they implement the peak shifting," he said.

Chua said the government should also consider setting up more BESS to mitigate intermittency by weather-dependent power generation like wind power and solar.

"I think the SSE has already imple-

mented Phase One. But it has to be under the Power Infrastructure Sinking Fund. We cannot transfer this money to investors because it is still very expensive. So, the government should step in and look at this BESS as a sinking fund to improve the power infrastructure," he said.

Chua said another hydro power source that remained untapped in Sabah is Kinabatangan River, the longest river in the state (560km) and the second longest river, Segama River.

"Right now, our hydropower only emphasises Padas River in the interior, which is only 200 km. So, if the government really looks into this, I think we can easily produce another 500 MW from these two rivers," he said.

Another potential investment area is wind power in the northern part of the state. Chua said the government must seriously upgrade all the grid to 275 KV, to allow more penetration and the southern grid link must be completed by 2030.

"And we would like the government to look at one-stop approval authority for the RE license and PPA," he said.

In order to increase power generation in Sabah, Chua said the ball is in the State Government's courtyard.

"We need a decisive and liberalised energy policy right now. We must think outside the box. We have to make a bold decision.

"We must look at a fast-track programme, a five-year energy security transition plan.

"We just highlight what the government needs to do. We are all ready. We are all ready to put our money," he said.